

CSCE 3304 - Digital Design 2
Project 1
A small standard cell library

Abdelsalam ElTamawy 900170376
Emman
Nada Badawy 900171975

April 18, 2020

Contents

1	Introduction	2
2	Inverter	2
2.1	Schematic	2
2.2	Stick diagram	3
2.3	Schematic	3
3	Tri-state Inverter	3
4	3 input NAND	3
5	3 input NOR	3
6	Complex function	4
6.1	Schematic	4
6.2	Stick diagram	5
6.3	Layout	5
6.4	Transition time	5
6.5	Data collection	5
6.6	Minimum cell height	5

1 Introduction

2 Inverter

2.1 Schematic

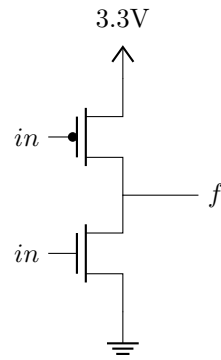


Figure 1:

2.2 Stick diagram

2.3 Schematic

3 Tri-state Inverter

4 3 input NAND

5 3 input NOR

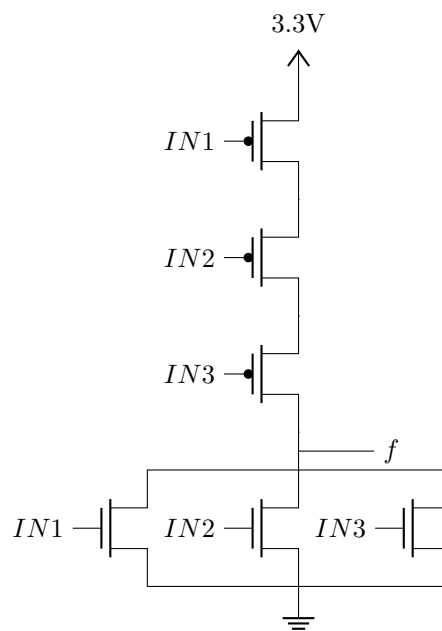


Figure 2:

6 Complex function

6.1 Schematic

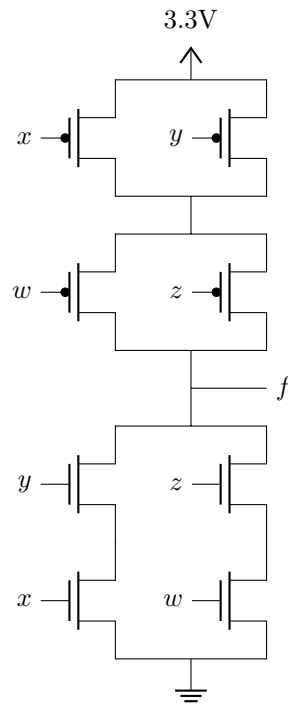


Figure 3:

6.2 Stick diagram

6.3 Layout

6.4 Transition time

6.5 Data collection

6.6 Minimum cell height

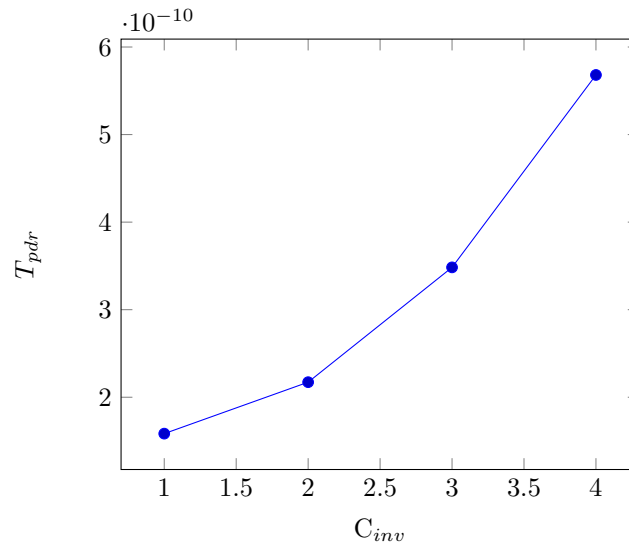


Figure 4: T_{pdr} to C_{inv} under $100ns$ transition time